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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/582,048

03/06/2007

Chi Bun Ching

119375-00002 / 2506US

1604

77202

7590

08/27/2008

Bell, Boyd & Lloyd LLP
3580 Carmel Mountain Road
Suite 200
San Diego, CA 92130

EXAMINER

LAU, JONATHAN S

ART UNIT

PAPER NUMBER

1623

MAIL DATE

DELIVERY MODE

08/27/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/582,048	Applicant(s) CHING ET AL.	
	Examiner Jonathan S. Lau	Art Unit 1623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 May 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) 2-4,6-9,12,21-23,25-30,32,34 and 36-40 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,5,10,11,13-20,24,31,33 and 35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>13 pgs / 07Jun2006, 16Nov2006, 20Apr2007</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This application is the national stage entry of PCT/SG04/00413, filed 15 Dec 2004; and claims benefit of provisional application 60/529,112, filed 15 Dec 2003.

Claims 1-40 are pending in the current application. Claims 26-30 and 37-40, drawn to non-elected inventions, are withdrawn. Claims 2-4, 6-9, 12, 21-23, 25, 32, 34 and 36, drawn to non-elected species, are withdrawn. Claims 1, 5, 10, 11, 13-20, 24, 31, 33 and 35 are examined on the merits herein.

Election/Restrictions

Applicant's election with traverse of the invention of Group I, claims 1-25 and 31-36, in the reply filed on 08 May 2008 is acknowledged. The traversal is on the ground that the compound disclosed in Dow et al. (WO 97/49735, of record) does not read upon the instantly claimed invention. This is persuasive because the compound disclosed in Dow et al. requires substitution of all C6 positions with an amine, whereas the instantly claimed invention requires there to be only one substituent X and the group R does not encompass an amine group, therefore the compound disclosed in Dow et al. does not anticipate the instantly claimed invention.

However, it is found that a compound having only one substituent X according to the instantly claimed invention is a known product. Breslow et al. (Journal of the American Chemical Society, 1978, 100(10), p3227-3229, cited in PTO-892) discloses β -cyclodextrinyl-6-monoimidazole prepared from reacting imidazole with β -cyclodextrinyl-6-monotosylate (page 3228, right column, paragraph 1 and page 3227, right column,

paragraph 1), which gives the product of β -cyclodextrinyl-6-monoimidazolium.

Therefore such a product does not serve as the special technical feature of a single general inventive concept. The special technical feature of the invention of Group I is the specific chemical structure of a specific cationic oligomer of a saccharide. The special technical feature of the invention of Group II is the specific method of enantiomeric separation of racemates using a specific cationic oligomer of a saccharide with a specific chemical structure. The special technical feature of the invention of Group III is the specific method of asymmetric synthesis using a specific cationic oligomer of a saccharide with a specific chemical structure.

The requirement is still deemed proper. This requirement is based on new grounds, therefore this requirement is not made final.

Claims 26-30 and 37-40 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected inventions, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 08 May 2008.

Claims 2-4, 6-9, 12, 21-23, 25, 32, 34 and 36 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 08 May 2008.

Examination has been expanded to include the species 6-deoxy-6-(imidazolium)- β -cyclodextrin tosylate.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 5, 10, 11, 13-20, 24, 31, 33 and 35 are rejected under 35 U.S.C. 102(b) as being anticipated by Breslow et al. (Journal of the American Chemical Society, 1978, 100(10), p3227-3229, cited in PTO-892).

Breslow et al. discloses the compound β -cyclodextrinyl-6-monoimidazole prepared from reacting imidazole with β -cyclodextrinyl-6-monotosylate (page 3228, right column, paragraph 1 and page 3227, right column, paragraph 1). The product of this reaction is the cationic β -cyclodextrinyl-6-monoimidazolium with a tosylate counter ion.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 5, 10, 11, 13-20, 24, 31, 33 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Breslow et al. (Journal of the American Chemical Society, 1978, 100(10), p3227-3229, cited in PTO-892), hereafter Breslow 1978, in view of Breslow, R. (Proceedings of the National Academy of Sciences of the USA, 1993, 90, p1208-1211, cited in PTO-892), hereafter Breslow 1993.

Breslow 1978 discloses the compound β -cyclodextrinyl-6-monoimidazole prepared from reacting imidazole with β -cyclodextrinyl-6-monotosylate (page 3228, right column, paragraph 1 and page 3227, right column, paragraph 1). The product of this reaction is the cationic β -cyclodextrinyl-6-monoimidazolium with a tosylate counter ion.

Breslow 1978 does not specifically disclose the compound β -cyclodextrinyl-6-monomethylimidazole.

Breslow 1993 teaches the substitution of imidazole with N-methylimidazole for determining the mechanism of RNA cleavage (page 1208, right column, paragraph 2).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Breslow 1978 and Breslow 1993 to substitute imidazole with N-methylimidazole. Both Breslow 1978 and Breslow 1993 are in the field of studying the mechanism of catalysis of RNA cleavage. One of ordinary skill in the art would be motivated to combine the imidazole disclosed by Breslow 1978 with the teaching of substituting imidazole with N-methylimidazole taught by Breslow 1993 in order to study the mechanism of catalysis of RNA cleavage in the same way. One of ordinary skill in the art would have a reasonable expectation of success in combining Breslow 1978 and Breslow 1993 because of the structural similarity of imidazole with N-methylimidazole as nucleophiles to displace a tosylate leaving group.

Conclusion

No claim is found to be allowable.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan S. Lau whose telephone number is 571-270-3531. The examiner can normally be reached on Monday - Thursday, 9 am - 4 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shaojia Anna Jiang can be reached on 571-272-0627. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1623

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jonathan Lau
Patent Examiner
Art Unit 1623

/Shaojia Anna Jiang, Ph.D./
Supervisory Patent Examiner,
Art Unit 1623